

*Chapter XI:*  
**FACILITIES AND INFRASTRUCTURE**

**INTRODUCTION**

The Facilities and Infrastructure Chapter attempts to summarize the existing public services provided by the Town to its citizens. Included in the summary is a general analysis of the efficiency of the systems and public infrastructure used by the Town to help provide these services. This analysis will incorporate several recommendations aimed at improving public service delivery in four major categories: Community Facilities, Public Utilities, Stormwater Management, and Open Space, Parks and Recreation. This chapter includes a separate summary and analysis section for each of these four categories in the following sections.

**COMMUNITY FACILITIES**

Community facilities consist of all public buildings, utilities, services and lands serving Smithfield area residents. One of the main functions of local government is to provide police and fire protection, water and sewer services, parks and recreation facilities and other services needed by the community. It is the responsibility of the Town of Smithfield to provide these services within the bounds of its legal authority and its financial capability. The following paragraphs briefly summarize existing conditions of community facilities in the Town with a few general forecasts.

**Town Hall**

The Town's governmental facilities are centrally located on Institute Street in Downtown Smithfield. A two-story building houses the Town's administrative offices, council chambers, and police and fire departments. Central dispatching for all emergency services (including police, fire and rescue) is also based here. The Town Hall facility is overcrowded, yet is of sufficient size and condition to meet the Town's present needs. However, as the Town's population continues to grow, more space will be needed to accommodate additional personnel and equipment. The Town should begin searching for feasible sites in the Downtown Area that would be suitable for the construction of a new Town Hall.

**Police**

The Smithfield Police Department consists of one Chief of Police, and fifteen (15) uniformed patrolmen. The Chief of Police reports directly to the Town Manager. Clerical and dispatching duties are performed by a support staff of seven (7). State police standards recommend a proportion of 2 officers to every 1000 residents in urban areas. Staffing levels in Smithfield currently meet this recommendation. The Town's police force is supplemented by six (6) state troopers assigned to the Smithfield vicinity; the nearest state police facility is based in Southampton County.

The Town police department utilizes sixteen (16) patrol cars. Replacement of police vehicles will be necessary on an occasional basis as dictated by mileage and circumstance. The Town of Smithfield itself does not operate a jail. Isle of Wight County and the Cities of Franklin and Suffolk contribute funds to a regional facility located in Suffolk. The present facility is currently filled to its design capacity (150 inmates). A new addition to the jail is currently under construction in Suffolk at the crossroads of Routes 10 and 460.

An enhanced E-911 system compliments and accompanies the Police Department's communication operation. The Department's emergency communication officers dispatch personnel for police services within the Town of Smithfield, as well as for emergency services for the Smithfield Volunteer Fire Department and the Isle of Wight and Windsor Volunteer Rescue Squads.

### **Fire Protection Services**

The Smithfield Volunteer Fire Department provides fire protection to the Town of Smithfield and its surrounding environs. The Department, which was established in 1939, currently has a 40 member crew. The Department's service area covers approximately 165 square miles, and includes the Town as well as those adjoining areas of Isle of Wight County lying north of the Isle of Wight Courthouse, west of Benn's Church and southeast of the Wrenn's Mill Subdivision. The Department coordinates its service with the volunteer fire departments in the Towns of Carrollton, Rushmere and Windsor.

The fire station is part of the Town Hall complex, facing Grace Street. The fire station is owned by the Town, while all of the fire fighting equipment is owned by the Department. The Town of Smithfield, Isle of Wight County and the Department itself jointly fund the Department's activities. The Fire Department maintains three pumper trucks, one elevated platform truck, one brush truck and the fire chief's car.

### Hydrant Location and Testing

The Town of Smithfield maintains a total of 195 fire hydrants in Smithfield for firefighting purposes. These hydrants provide coverage throughout the Town. All of the Town's fire hydrants are tested on an annual basis, and they are maintained by the Smithfield Public Utilities Department.

### Community Involvement

The Smithfield Volunteer Fire Department Fire promotes fire education and safety within the community by giving demonstrations to area schools and civic groups. In addition, each year the Department observes Fire Prevention Week by having its officers visit the local elementary schools. The Department also conducts fire inspections of homes and commercial establishments upon request and provides recommendations regarding fire safety on an advisory basis.

### **Emergency Medical Services**

The Isle of Wight's Volunteer Rescue Squad was established in 1968, and it provides emergency medical services to the Town and the northern half of Isle of Wight County. Approximately 50 volunteers serve as rescue squad members.

The Isle of Wight Rescue Squad is housed in a modern four-bay rescue squad facility located on South Church Street. The Smithfield rescue squad is one of two in the County and receives financial support from both the Town and the County. The other rescue squad in the County is located in the Town of Windsor and provides services to that town and the southern half of the County.

### **Medical/Health Facilities**

The Isle of Wight County Health Department maintains a large, modern health facility on Grace Street in Downtown Smithfield. At present, there are no hospitals in Smithfield or Isle of Wight County; the nearest hospital facilities are located in Suffolk, Franklin and Newport News. The Town contains two privately operated medical centers, the Smithfield Medical Center and the Riverside Health Center both of which are located on South Church Street. There is also a mental health center, a physical therapy center and a nursing home/convalescent center located within Smithfield.

Within the upcoming planning period, nursing home facilities in the region will be an important consideration of health care providers, consumers and policy makers. The Town's elderly population is expected to mirror regional and national demographic trends, and will continue to increase at a rate faster than any other age group. The 1999 Future Land Use Plan attempts to respond to this ongoing trend by encouraging the development of elderly housing and assisted living communities within several vacant, developable tracts of land in the Town.

### **Public Works**

The Town of Smithfield's Department of Public Works is administered by the Superintendent of Public Utilities, who reports directly to the Town Manager. The Department is responsible for the following major tasks, many of which are sub-contracted to the private sector:

- *Street repair and maintenance;*
- *Maintenance, repair and installation of street signs and parking signs;*
- *Snow removal;*
- *Installation, maintenance and repair of water and sewer lines, and lift and pump stations;*
- *Maintenance and repair of all Town buildings and structures;*
- *Mowing along all Town street right-of-ways and Town grounds;*
- *Maintenance and repair of all Town vehicles and equipment; and*
- *Meter reading, and Miss-utility markings.*

The Public Works Department also performs daily facility checks and maintains a complaint and request log to ensure expedient and effective handling of these requests. At present, the Department has ten (10) full-time equivalent employees. The Department also owns and maintains a wide variety of service vehicles and other assorted equipment, including a portable generator, a mudhog (water leak pump), jackhammers, several trucks, a backhoe/trencher, compressors, a welding machine, two tractors, several sewer pumps and numerous lawnmowers.

### **Solid Waste Collection and Waste Disposal**

The Town of Smithfield's contracted refuse collection and disposal services are financed entirely from its general fund without assessment of service fees. The Town offers three basic types of services to its residents:

- Twice weekly pick-up and disposal of residential refuse;
- Twice weekly pick-up of yard debris (grass clippings and small brush); and,
- Weekly curbside pick-up of recyclable materials including paper, glass, cardboard and aluminum.

In addition, Town residents may request special pick-ups of oversized refuse and debris for a small fee. The Town also provides some seasonal curbside leaf collection.

Although the Town does not provide refuse collection services to Town businesses, it does collect recyclables from businesses at no extra cost. The Town's refuse collection and disposal services are provided through a private hauler. The curbside pickup of recyclable materials is provided by the Southeast Public Service Authority (SPSA). Both the solid waste and the recyclable materials are transported to the regional landfill which is owned and operated by the SPSA. SPSA's landfill is located in Suffolk on Route 58 about 20 miles from the Town limits.

### **Telecommunications**

Recent advances in telecommunications technology have dictated the need for local communities to plan for the siting of telecommunications towers to provide private regional service to local residents. While the Town owns no such towers and does not provide telecommunications services of this nature, it will become increasingly important for the Town to include the consideration of tower siting strategies in its future land use planning efforts. The Town's recently revised Zoning Ordinance prohibits any telecommunications tower from being located within five hundred (500) feet of a residential district unless an applicant clearly demonstrates by providing coverage/interference and capacity analysis that the location of the antenna is necessary to meet the frequency reuse and spacing needs of the wireless telecommunications facility and to provide adequate coverage and capacity to areas which cannot be adequately served by locating the tower(s) in a less sensitive area. Tower(s) or structures supporting telecommunication antenna(s) or otherwise conforming to all the applicable provisions of this Ordinance are permitted subject to approval of a special use permit in the following zoning districts when the tower(s) are considered an accessory use: Office Transitional, Light Industrial, Heavy Industrial.

The Town prefers that communications towers be located in rural areas away from development and should include multiple uses on the same site as approved by the Town Staff. Thus, telecommunications

towers, including cellular telephone relay stations and towers should be designed, arranged and located so as to accommodate future multiple uses (ie. digital, analog and cellular facilities) within the same site. Also, the identified facilities should include space for additional expansion and location of new towers on the site.

### **Public Library**

The Smithfield Branch of Isle of Wight Libraries is located in the old Smithfield High School building on James Street. The first floor adaptive reuse of this building was undertaken in 1989 in conjunction with Community Development Block Grant (CDBG) improvements in the adjacent Riverview neighborhood. The Smithfield library presently has over 12,000 volumes available for checkout with a variety of other reading programs and services offered. It offers seating space capable of supporting thirty-five (35) users and also includes several community meeting rooms. The library has experienced strong growth in circulation in recent years, which is largely attributable to the accessibility and excellent design of the facility.

The remainder of the old school facility, still owned by Isle of Wight County, includes a classroom extension facility for Paul D. Camp Community College and the Smithfield YMCA.

### **Education**

Residents in both the Town of Smithfield and the Annexation Areas are served by the Isle of Wight County Public School System. Smithfield Middle School (Grades 4-7) is located within the Town limits, while Hardy Elementary School (Grades K-3), Carrollton Elementary School (K-3) and Smithfield High School (Grades 8-12) are located in the County immediately outside of the Town's existing corporate limits. Each of these schools are currently operating within design capacity; however, the Isle of Wight County School System has requested that the Town consider the future expansion needs of the Middle School located on Route 258 West in its land use planning efforts. Ideally, the school would expand its current campus onto the adjacent vacant parcel located directly behind the existing building. The Town has incorporated this request into the Future Land Use Plan as is discussed in the summary of the West Main Planning Area in the Future Land Use Plan chapter and as is reflected on the Future Land Use Plan Map.

## **PUBLIC UTILITIES**

### **Water**

The Town of Smithfield has owned and operated a public water system since 1905. Water is available to almost every resident and business in the Town, and over 98.3% of them are currently connected to the Town's system. Since 1985, the Town has sold water wholesale to the County for use by those residences and businesses outside the Town limits. The Town of Smithfield obtains its water solely from five underground wells which draw groundwater. These wells are located in the following places:

- Cary Street;
- West Street;
- Jefferson Street;
- Mercer Street; and
- South Church Street.

The current maximum potential output of these wells is 2.7 million gallons per day (mgd). The capacity significantly exceeds the average daily demand, 0.60 MGD, consumed within the Town. The Town's current maximum permitted output from the wells is 1.4 MGD. Because of this excess water capacity, the Town has sold water since 1988 and currently sells water wholesale to Isle of Wight County (0.07 MGD).

### Water Storage

The Town's water storage system includes three water towers and one hydropneumatic tank with a combined storage capacity of 625,000 gallons. The location and storage capacity of each tank is summarized below:

<u>Location</u>	<u>Capacity</u>
Wilson Road	150,000 gallons
South Church Street	400,000 gallons
Cary Street	70,000 gallons
Pinewood Drive	5,000 gallons

### Water Distribution

The Town's existing water distribution system extends to almost all of the developed areas of the Town, and consists of approximately 32 miles of water line with pipe sizes ranging from two inches to twelve inches in diameter. The Town's system consists primarily of six-inch lines in the residential areas and eight-inch lines in the industrial and commercial districts. The water system is divided into two zones: the West Zone and the East Zone. The West Zone services historic Smithfield and the other non-historic parts of the Town west of Cypress Creek. The East Zone serves the more recently developed parts of the Town east of Cypress Creek.

Currently, there are 2,424 connections (2,237 residential connections and 187 commercial connections) to the Town's water system. The principle industries in the Town, Smithfield Packing and Gwaltney Foods, are not connected to the Town's distribution system, but rely on six private wells.

Town policies and guidelines for water services are established in the Town Code. Water billing and administrative tasks are performed by the Town Treasurer's Department in conjunction with the Hampton Roads Utility Billing System. Bills are distributed every two months.

Water lines also extend from the Town's public water system into some portions of the County. Various lines are operated by the County and the County School Board. In March 1988, the Town entered into a Utilities Agreement with the County. This agreement was amended in 1998. Pursuant to that agreement, the Town sells water wholesale to the County for distribution through the extensions to the Gatling Pointe and Gatling Pointe South subdivisions along Route 704, as well as to Smithfield High School located south of Town along Route 10. The Town sells to the County an average of 3.2 million gallons of water per month or .11 million gallons per day. The Town charges the County a separate rate.

### Water Master Plan

In conjunction with the development of the Town's Comprehensive Plan Update, the Town of Smithfield commissioned AES Consulting Engineers to develop a Utility Master Plan to provide a schedule of recommended water and wastewater infrastructure improvements. This master plan incorporates the present and future needs of the Town by developing a separate master plan for both water and sewer services. With respect to water service specifically, the master plan delineates a schedule for water

supply, water distribution and water storage improvements. Additionally, projected costs, funding opportunities and strategies for anticipated capital maintenance programs are outlined as part of the recommendations for the plan. As part of the development of this plan, the consultants analyzed and evaluated the existing system using Hasteed Methods and WaterCad software (a system modeling program). The consultant found the Town's water system to be in satisfactory condition overall; however, the evaluated data also revealed potential system needs that the Town of Smithfield should address. These needs are summarized below and are described in more detail in the final Master Utility Plan report prepared for the Town (the Plan is available for review in the Town Manager's office). In addition to these specific problems, the master utility plan advises the Town Staff to maintain its vigilant monitoring of Town water system demand levels as development occurs within the recently annexed areas.

### Recommended Water System Improvements:

- *Looping the system at five locations.*
- *Replacing the Cary Street Tank.*
- *Upgrading eight waterlines.*
- *Installation of new water meters.*
- *Installing a Chlorination System.*
- *Installing a Fluoride treatment system, if required.*
- *Install an additional water tank as needed as future development occurs.*

### **Sewerage**

Currently there are approximately 1,869 connections to the Town's sewer system, representing approximately 94% of the Town. The remaining 6%, approximately 115 residences and businesses are not served by the Town wastewater collection system and use private septic systems. The Town of Smithfield also provides domestic and industrial wastewater collection throughout the entire Town as well as in certain portions of the County. Sewer services are available to almost all of the residences and businesses within the Town. The Town of Smithfield's current sewerage system consists of 33.9 miles of sewer lines and 12.2 miles of force mains. The system uses a combination of gravity and force sewer mains. In addition, the system uses twenty-six lift stations to assist the gravity mains due to the flat topography which complicates sewerage throughout the Town and the region. The pipelines are predominantly 8-inch lines; however, there is a 16-inch line on Battery Park Road in anticipation of future development. The Town's sewage collection system is maintained by the Town's Public Utilities Department.

The March 1, 1988 Utilities Agreement between the Town and the County, referred to in the section above, provided that the Town could own and operate extensions of its sewer system in the County. Those customers in the County who are served by the Town's sewerage system are located primarily in the Gatling Pointe subdivisions. The Town served these areas of the County through 5.8 miles of Town-owned sewer lines and 1.9 miles of Town-owned force mains, until the 1998 annexation. These lines are now owned and maintained by Isle of Wight County. Sewage billing and administrative tasks for customers in the Town as well as the County are performed by the Town Treasurer's Department in conjunction with the Hampton Roads Utility Billing System.

## **Sewage Treatment**

Prior to July 1996, the Town operated its own sewage treatment facility, which handled an average flow of .425 million gallons of sewage per day from residents within the Town and in limited areas in the County. On July 10, 1996, the Town discontinued use of its facility and connected to the new sewage collection line installed by the Hampton Roads Sanitation District (HRSD) along Routes 17 and 10 in the County and the Town. All sewage collected by the Town is now treated by HRSD.

## **Sewer Master Plan**

The Sewer Master Plan prepared as part of the overall Utility Master Plan provides an inventory of existing wastewater facilities and a recommended schedule of sewer infrastructure improvements. Additionally, projected costs, funding opportunities and strategies for anticipated capital maintenance are included in the final adopted report, which is available for review in the Town Manager's office. The consultant's analysis of the collected sewerage data was evaluated using multiple computer spreadsheets. These spreadsheets analyzed the existing utilities, such as the gravity system, the force main and the pumping stations. A check for Inflow and Infiltration was also incorporated into the analysis. Although this was a non-detailed analysis, it generally assessed problem areas. After conducting several rounds of analysis of the comprehensive wastewater system, the consultant concluded that the Town's wastewater system is in satisfactory condition overall. Nevertheless, several improvement projects were recommended in the master plan. A summary of these improvements are provided below.

### Recommended Sewer System Improvements

- *General improvements to pumping station buildings; including wetwell ventilation repairs and electrical junction box installations.*
- *A comprehensive Inflow and Infiltration analysis.*
- *HRSD flow Monitoring and evaluation.*
- *One additional connection to HRSD.*
- *Complete filling of lagoons at former waste-water treatment plant.*

## **STORMWATER MANAGEMENT**

Storm or surface runoff is stormwater that moves along the ground by gravity and flows into streams, rivers, ponds, lakes and oceans. Almost all site development projects affect runoff in some way as they typically result in the remolding and sculpting of the earth's surface as well as changes in surface character. These changes may significantly alter stormwater runoff patterns in terms of rate, volume and direction. Thus, the continuing urbanization of watersheds presents a myriad of potential problems. Construction activities can generate sediment and nutrient loading issues at several times the normal rate. Impervious pavements increase both the volume of stormwater runoff and the magnitude of peak flood flows. Furthermore, runoff from urban areas is often highly polluted with nutrients, oils and toxic metals. The net result of these problems is that water quality may be seriously degraded, property damage may be excessive and in many instances the aesthetic quality of natural areas can be destroyed.

Stormwater management consists of basic principles and techniques used to respond creatively to these and other problems posed by development in the natural environment. The proper design of any management system requires an interdisciplinary approach, including professional expertise in ecology, engineering, hydrology and landscape architecture. The contemporary approach regarding stormwater management is to develop a comprehensive, integrated approach which addresses the effects of storm runoff on water quality in addition to volume and rate of runoff.

**Regional Hydrologic Characteristics**

Smithfield lies within the Atlantic coastal plain of Tidewater Virginia, on the higher ground of an escarpment adjacent to a navigable river. The land rises rather steeply from an elevation a few feet above sea level at the marsh's edge to broad flat plains ranging from 20 to 40 feet above sea level. The highest elevations occur in the far western area of Town, generally increasing as one moves inland from the Pagan River.

Generally, the topography is characterized by relatively flat peninsulas of land, formed by rivers, streams, creeks, and tidal shorelines that cut and erode the land, causing sandy and marshy areas, wetlands and areas subject to frequent flooding and tidal action. These wetland and marsh areas are recognized as vitally significant components of environmental systems, contributing to water filtration and purification, shoreline stabilization and serving as breeding grounds for various forms of wildlife.

In the vast majority of the Town, land generally drains well. However, much of the upland areas located in the Battery Park North and Battery Park South Planning Areas are so flat that storm water tends to drain slowly. Soil conditions in this area further complicate drainage in this area and also poses considerable shrinkswell soil problems. Serious flooding in the Town is confined to the lower elevations, usually from high tides associated with tropical storms.

**Watershed**

Smithfield lies within the James River drainage basin. The confluence of the Pagan and the James River is approximately 4 miles northeast of the Downtown Area. The James River ultimately flows into the Chesapeake Bay about 30 miles to the east at Hampton Roads.

**Floodplains**

Floodplains are defined as areas exhibiting a 100 percent probability of being flooded over a 100-year span; or conversely, a 1 percent chance of being flooded in any year. In order to qualify for flood insurance, Federal Emergency Management Agency (FEMA) requirements prohibit development within the floodway (water channel) and strongly discourage development in the areas adjacent to the 100-year floodway fringe. Floodplains within the Town are identified in the Wetlands Inventory Map to be included in the final draft of the Comprehensive Plan.

The Town of Smithfield has adopted a Floodplain Ordinance that identifies a formal flood plain district. The basis for delineation of the Flood Plain District is the 100-year floodplain elevations or profiles contained in the Flood Insurance Rate Map prepared by FEMA in 1990. Prior to the adoption of the

Floodplain Ordinance, some flood-prone areas in Smithfield were developed for urban purposes, most notably on Commerce Street and on South Church Street near the edge of the wetlands. Steep slopes (those exceeding 15%) in Smithfield occur predominantly along the major creeks and tidal marshes. Embankments above the Pagan River and Mount Holly Creek are the steepest in the Town, while more gradual relief is found adjacent to Cypress Creek, Moone and Jones Creek. In the outlying areas, most residences are sufficiently set back from creek embankments; however, accessory and water-dependent uses (garages, boathouses, walkways) are often built adjacent to banks and waterways. Few developed areas infringe upon steep slopes. The few exceptions are found in some of the older residences along Main Street and south of Cedar Street above Little Creek. Bluffs and steep slopes of any kind have unusual development problems and should be avoided.

### **Water Quantity Issues**

A variety of changes in stream hydrology result from new development. One such change is its effect on the quantity of stormwater runoff flowing downstream. As land is developed, the area of imperviousness almost always increases. This increase accelerates the runoff of rainfall and increases the peak rates of flow. If measures are not taken during the design of stormwater management facilities, this increased rate of flow can cause downstream flooding and erosion and sedimentation problems. The use of properly designed stormwater management facilities can provide a solution to these problems. However, many areas exist within the Town where development has occurred without consideration of these problems. The Town does have an Erosion and Sedimentation Control Ordinance that should limit these problems in the future, however. The ordinance requires all developers to convey runoff to adequate channels, or to prevent an increase of runoff from their properties.

### **Water Quality Issues**

Another troubling change in stream hydrology commonly caused by new development is the degradation of the quality of stormwater. Pollutants are accumulated on paved and other impervious surfaces and are flushed from these surfaces during a storm. Thus, developed areas aid in the collection and concentration of pollutants. They also provide new sources for pollution, as contaminants may be released through corrosion, decay and automobile fuel and oil leaks. Developed areas also contribute herbicides, pesticides and fertilizers into the environment which further degrade the quality of water in adjacent streams, ponds and lakes.

As a means of removing pollutants caused by urban development, Best Management Practices (BMPs) have been introduced as a major component in stormwater management practices. BMPs are measures that have been developed to control, store and/or treat stormwater runoff from developed areas for the purpose of reducing flooding or removing pollutants while maintaining or enhancing environmental quality.

The effectiveness of BMPs to remove pollutants depends on the removal mechanism used, the fraction of the annual runoff that is effectively treated and the nature of the pollutant being removed. With thoughtful site design, regular maintenance and creative landscape architecture, most BMPs can be not only efficient and utilitarian, but also an attractive (or at least unobtrusive) addition to any community. In evaluating the BMP options for the Town, care should be taken to implement BMPs that would provide

the desired level of pollutant removal and ensure compatibility between the natural and human environment. The proper control of these pollutants will help preserve the quality of water in every watershed in the Town.

### **Existing Manmade Stormwater Management Facilities**

Installation of curbs, gutters and storm drainage is governed by the Town's Subdivision Ordinance which encourages the installation of a drainage system in all new Town subdivisions to insure adequate drainage of surface and storm water. All plans and specifications for installation and construction of storm drainage systems, including culverts and catch basins, must be approved by the Planning Commission. Unfortunately, many of the older subdivisions in the Town, such as Pagan Pines and Red Pointe Heights were developed without these manmade drainage systems. As a result, flooding is a major problem in many of the established neighborhoods. Given the limited land available within the small lots of these communities, there is little in the way of economically feasible alternatives that the Town may implement to alleviate these existing problems. The Town should ensure that the new regulations regarding curb and gutter included in the revised Zoning and Subdivision Ordinances are implemented so that the Town may avoid suffering from these same drainage problems in future developments.

All costs of storm drainage, curb, gutter, and sidewalk improvements are the responsibility of the subdivider for a new development unless the Town Council directs that the subdivider is responsible for only a portion of the costs. Before filing the application for a final subdivision plat, the subdivider must either install the improvements or execute an agreement and post a bond to cover the estimated costs of the improvements.

The Town Subdivision Ordinance also encourages the installation of curbs, gutters and sidewalks, in subdivisions where such improvements are warranted. Such improvements must conform to the specifications of the Virginia Department of Transportation (VDOT) and the Town. The Town has successfully obtained Community Block Development Grants (CDBG) to provide curbs, gutters and sidewalks to the existing subdivisions of Lakeside and Jersey Park development which are lower-income neighborhoods located off West Main Street/ Route 258 West and similar improvements are planned for the Rising Star community located off Battery Park Road.

## RECOMMENDED FUTURE STORMWATER MANAGEMENT IMPROVEMENTS

Decisions the Town makes now regarding stormwater management issues will have a direct effect on future water quality, storm drain performance and system condition. In response to the issues addressed in this section of the Plan, the Town should implement the following projects:

1. **Complete a formal Geographical Information System (GIS) that ties into the County's GIS systems and offers topographical mapping suitable for developing formal stormwater management analysis.** The topographical mapping should include digital orthography and two-foot contour intervals in order to allow a detailed analysis of existing conditions and opportunity areas.
2. **Develop a Comprehensive Stormwater Management Plan for the Town of Smithfield.** Once the proper GIS is in place and topography is readily available, the Town should commence with the development of a Comprehensive Stormwater Management Plan which shall define the Town's new comprehensive approach to managing stormwater runoff in order to maintain the environmental balance of the region. The objective of this plan would be to provide a comprehensive and unified framework for stormwater management which follows the Comprehensive Plan, complies with all regulations and includes location-specific recommendations that translate into a Capital Improvement Program that will benefit the entire Town. The plan should be address both water quantity and water quality issues as defined above, as well as offering detailed recommendations regarding the proper implementation of Best Management Practices useful in protecting the environment from the impact of future development. The Plan should focus upon establishing economically feasible solutions, if any are indeed available, for improving drainage in the numerous older residential subdivisions in Smithfield that suffer from flooding during even minor storm events. As outlined in the Planning Area summaries in the Future Land Use Plan chapter, the most critical areas in need of analysis are the neighborhoods located within the Pagan Pines and Battery Park North Planning Areas.
3. **Develop a Stormwater Management Design Manual.** The Town should develop this manual as a means of aiding developers and Staff in their interpretation of proper engineering techniques and design details encouraged in the Stormwater Management Master Plan. The manual, which would complement the Town's existing Construction Design Standards Manual, would eliminate any confusion over the Town's future expectations with respect to modern design standards.
4. **Introduce a Stormwater Management Ordinance to aid in the implementation of the strategies recommended in the Stormwater Management Plan.** A Stormwater Management Ordinance should be introduced to augment the existing Chesapeake Bay Preservation and Sedimentation Control ordinances that govern stormwater management requirements. This recommended ordinance should be designed to help prevent illicit discharges and dumping into storm drains. The ordinance would grant the Town the legal tools needed to implement the strategies outlined in the Comprehensive Stormwater Management Plan. These tools include the prohibition by law of putting any gasoline, oil, antifreeze or other pollutants into the storm system. It

also prohibits anyone from putting anything in the gutter, ditch, storm drain or other drainage way that impedes or interferes with the free flow of stormwater. Chlorinated swimming pool water also cannot be discharged into the Town storm drain system. The ordinance also implements the credit system allowing the sale of water quality credits, thereby providing developers a means to share in the cost of regional stormwater management facilities.

5. **Implement a new Stormwater Management Facility Inspection Program.** Stormwater management facilities require regular maintenance to ensure that the facilities operate properly. It is recommended that the Town obtain a maintenance agreement from the owners of private BMP structures to ensure that the BMPs are properly maintained. The maintenance requirements for a regional BMP facility include periodic inspection, landscaping maintenance, trash and debris removal, pipe and outlet structure cleaning, sediment removal and dam maintenance. The Town should inspect all private BMP structures that have a maintenance agreement at least once a year.
6. **Foster a regional stormwater approach going forward emphasizing regional BMPs over small, on-site facilities in an attempt to protect water quality.** Best Management Practices (BMPs) are required by the Chesapeake Bay Preservation Area ordinance as a way to reduce non-point source pollution while providing effective stormwater management. As dictated by the ordinance, a BMP for a specific new development site should be designed to control runoff, maximize pollutant removal and integrate with the natural and built landscape to the highest degree possible. Included in this design scheme should be a consideration for maintenance requirements, costs and responsibilities. Through proper planning and sound design, stormwater management facilities can serve multiple uses, provide community and aesthetic amenities, create safe environments and reduce overall development costs.

In many cases, regional Town-owned BMP's are preferable to the small, on-site facilities. Often times, smaller structures have a greater chance of performance failure due to poor construction practices or a lack of maintenance. Moreover, large BMPs serve a larger drainage area and are usually more cost effective to construct and maintain than several smaller on-site BMPs. Large BMPs also have greater potential to control downstream flooding and other water quantity problems caused by development.

BMP selection criteria include stormwater management objectives, water quality objectives and appropriateness to specific site conditions, including climate, soils, topography, proposed and existing land use and surface cover. The suitability of recommended BMPs is strongly correlated to the engineering properties of the site's soils. Since many of the traditional BMP measures incorporate infiltration and detention facilities, geotechnical evaluations must focus on the soil's inherent permeability ratings, hydrologic groupings and drainage characteristics.

7. **Enlist the Chesapeake Bay Local Assistance Department to aid the Town in its effort to identify Resource Protection Areas within the three large land areas annexed from Isle of Wight County.** For the purposes of the development of the Comprehensive Plan, aerial photos and old Isle of Wight County maps were used to designate Resource Protection Areas and Resource Management Areas in the three large land areas annexed from Isle of Wight County in 1998. The Town should seek assistance from the Local Assistance Department to undertake groundtruthing analysis to ensure that the RPAs are properly identified, as this detailed environmental analysis is beyond the scope of the Comprehensive Plan.

## **OPEN SPACE, PARKS AND RECREATION**

Public recreation facilities and programs administered by the County are available to the residents of the Town. Smithfield residents have access to a wide variety of park and recreational facilities, both within the Town itself and in sites located throughout Isle of Wight County and the greater Tidewater region. Given the wide variety of regional opportunities available to local residents, generally accepted park and recreation standards have little application to a Town like Smithfield. Nevertheless, it remains important to assess the adequacy of existing facilities and plan for future recreational needs and improvements. The following section provides a brief summary of the existing recreational facilities, both public and private, in the area and offers several implementation recommendations concerning future parks and recreation planning.

### **Town Public Recreation Facilities**

Two major parks are located within Town limits: Riverview Park and Smithfield Middle School Park. Several other smaller public parks are also located within the Town's limits. Residents of the Town and the County all use these facilities free of charge.

#### Riverview Park

Riverview Park is a relatively new park located adjacent to the Smithfield library at the old Smithfield High School site on James Street in the Riverview neighborhood. The park covers over 27 acres and offers lighted tennis and basketball courts, a baseball field, picnic area, exercise court, a walking/jogging trail and open space. There is a handicap-accessible playground area for the children and a senior citizens recreation area with a shelter and gazebo. The facility is owned and maintained by Isle of Wight County.

#### Smithfield Middle School Park

The Smithfield Middle School Park is located off West Main Street adjacent to the school facility. This park offers basketball, baseball and soccer fields.

#### Jersey Park Tot Lot

The Jersey Park Tot Lot is located on Windsor Avenue in the Jersey Park neighborhood. The park includes playground equipment, a picnic shelter, a sand volleyball court and horseshoe pit. The facility is open during the daylight hours and is owned and maintained by the Town of Smithfield.

### Robert S. Clontz Memorial Park

Robert S. Clontz Memorial Park is equipped with a gazebo, picnic tables and fishing pier for those who enjoy the natural beauty of the outdoors. It is located off North Church Street on the northern bank of the Pagan River. The pier is named after a noted artist who resided in Smithfield.

### Pinewood Heights Tot Lot

An additional neighborhood-scaled playground is located on Pinewood Drive.

### Fishing Lake

The Town of Smithfield owns a 4.5-acre lake located off Waterworks Road.

## **County Public Recreation Facilities**

### Carrollton Nike Park

The Carrollton Nike Park is located on Route 699 (Nike Park Road) east of Smithfield. It provides several recreational opportunities, including baseball, softball, basketball, tennis, playgrounds and picnicking facilities. The park is managed and maintained by the County's Public Recreational Facilities Authority. Approximately half of the site is developed, leaving the remainder overlooking the river. It is owned and maintained by the County of Isle of Wight.

### Smithfield High School

Smithfield High School, located off Route 10 south of Town, has a myriad of ballfields, tennis courts, basketball courts and playing fields. It is owned and maintained by the County of Isle of Wight. As is the case with several other public schools designed for the multi-use of recreational facilities, the recreational facilities are utilized by the School Board during regular school hours, extra-curricular activities included, and by the Public Recreational Facilities Authority (for sponsored recreation programs) at other times.

### Public Boat Ramp

The nearest public boat ramp is located on Jones Creek in Rescue. There is also a ramp at Tyler's Beach near Rushmere. The Planning Commission and the Town Staff has identified the provision of a public boat ramp in the Town as a high priority.

## **Private Recreational Facilities**

### Beale Park

Beale Park, located on Moonefield Drive at the corner of Lumar Road, is also within the Town's limits. Beale Park has tennis courts, a baseball field and a swimming pool. The park is operated by the Smithfield Recreation Association (SRA), which is a private community athletic association. Membership in the SRA is open to all residents of the Town, provided that citizens pay an annual membership fee. However, the swimming pool has a separate restricted membership with a current waiting list.

Private Marinas

Privately-operated marinas are located on South Church Street in the Smithfield Station complex and on Jones Creek in the community of Rescue in Isle of Wight County.

**Recommended Parks and Recreation Facilities Improvements**

As part of the development of its Comprehensive Plan, Isle of Wight County has completed an inventory of existing recreation areas and facilities in the entire County, including Town facilities, as well as an analysis of this supply relative to projections of facility demand through 2010. This analysis concludes that the County is well-equipped to meet future demand with the exception of one or two areas of concern. Specific County-wide parks and recreation concerns listed in the Comprehensive Plan focus on limited public waterfront access. This need has been expressed repeatedly by Town residents during public hearings and in the citizen surveys distributed as part of the development of the Town's Comprehensive Plan. Citizens have mentioned that the Town needs to identify additional opportunities for public boat landings. The Town should explore the feasibility of acquiring the vacant lots adjacent to the Pagan River off Riverview Avenue, and constructing a public boat ramp offering direct access to the river. If economically and environmentally feasible, this site could provide a valuable resource to the community. Special care must be taken to ensure that such a project abide by all Chesapeake Bay Preservation Act requirements, especially those with concerning shoreline erosion, water quality impacts and public water access.

The Town should continue to explore adding a new facility to its existing portfolio of recreational areas. The Town has prepared a concept plan to add new recreation facilities on the Town's old Sewage Treatment Plant property adjacent to Cary Street. Plans for the new facility include softball and baseball fields on the site where the old sewage treatment plant lagoons are located.